

# **EXHIBIT 12**



Mac

iPad

iPhone

Watch

TV

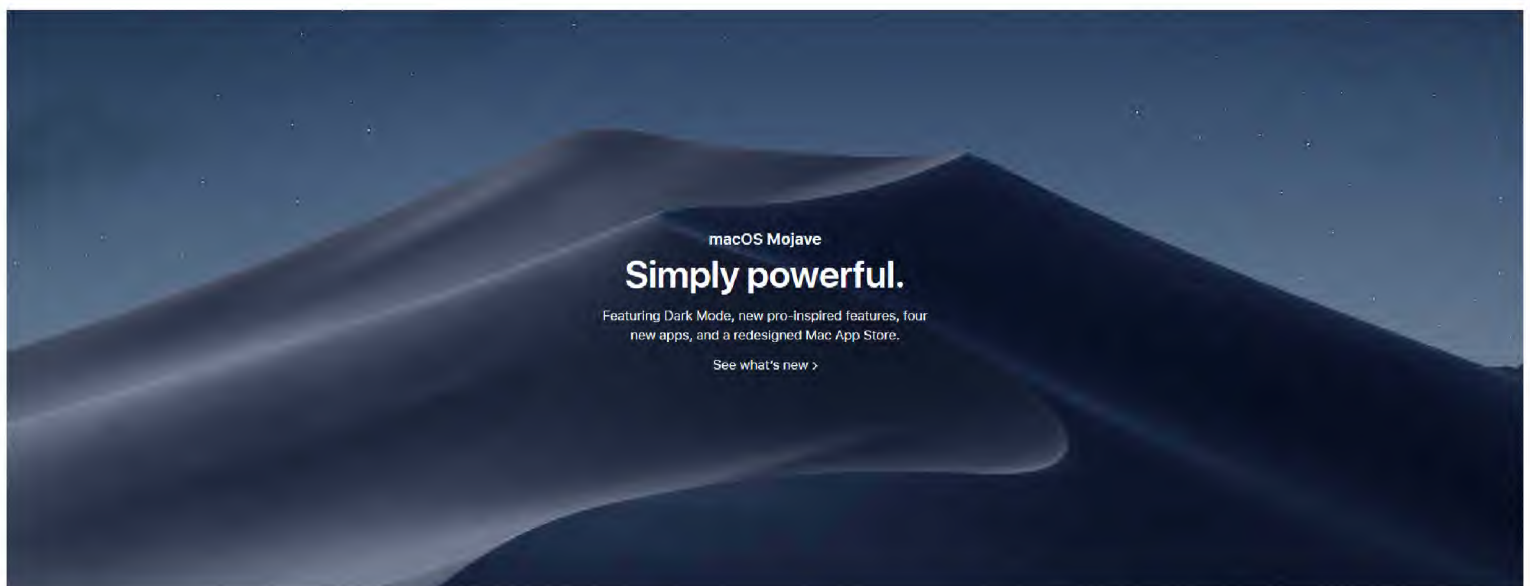
Music

Support



# macOS. It's why there's nothing else like a Mac.

macOS is the operating system that powers every Mac. It lets you do things you simply can't with other computers. That's because it's designed specifically for the hardware it runs on — and vice versa. macOS comes with an entire suite of beautifully designed apps. It works hand in hand with iCloud to keep photos, documents, and other stuff up to date on all your devices. It makes your Mac work like magic with your iPhone. And it's been built from the ground up with privacy and security in mind.



Easy to Use

## When it's simple to do everything, you can do anything.

On a Mac, everything is designed to work just the way you expect it to — from operating it with simple, intuitive gestures to asking Siri to find a file to having your apps automatically update themselves. Whatever you set out to do on a Mac, there's much less to learn and that much more to accomplish.



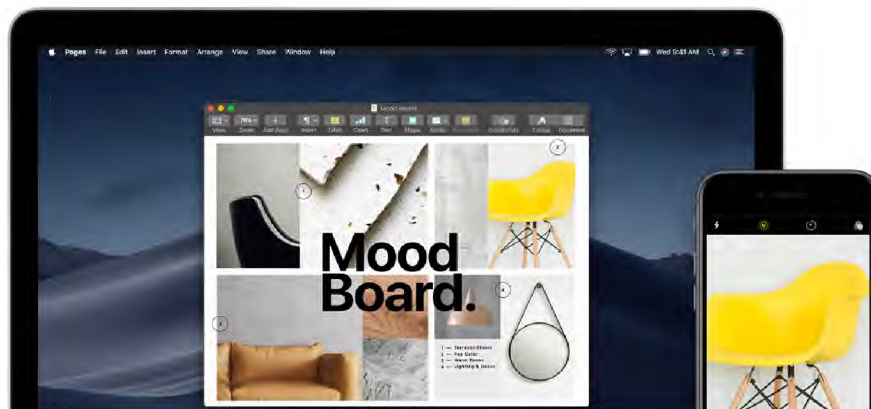
The Finder lets you easily browse and organize the files on your Mac — and those stored in iCloud Drive. With Gallery View, you can quickly locate a file by how it looks. Open the Preview pane to see all of your file's metadata, and use new Quick Actions to edit files right from the Finder without ever opening an app.

### Continuity

## All your devices. One seamless experience.

Your Mac works with your other Apple devices in ways no other computer can. If you get a call on your iPhone, you can take it on your Mac. With Continuity Camera, you can use your iPhone to take a picture or scan a document nearby, and it will appear right on your Mac. When you copy text or an image from one device, you can paste it into another with standard copy and paste commands. You can even unlock your Mac with your Apple Watch. No password typing required.

[Learn more about your devices working together >](#)

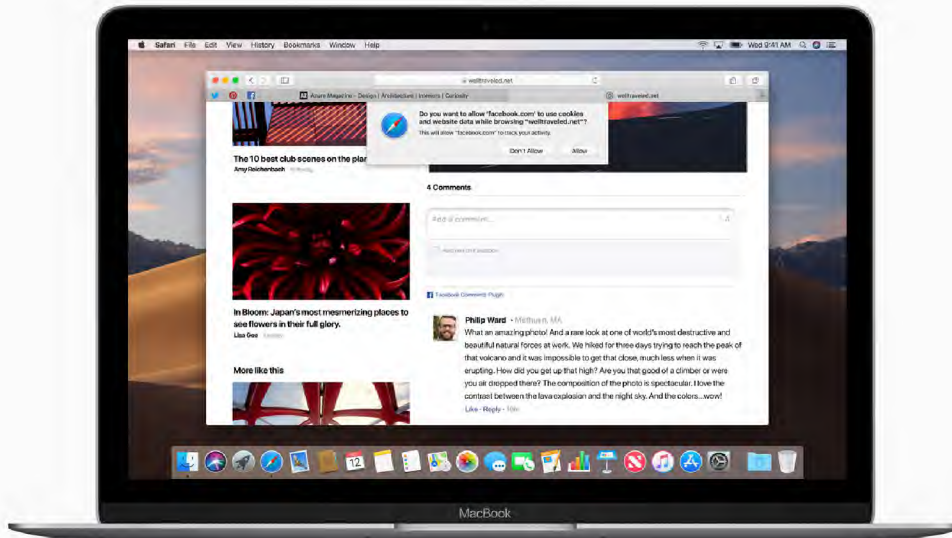




## Privacy and Security

# We believe your data belongs to you. Period.

Everything you do with your Mac is protected by strong privacy and security features. That's because we build data security into everything we make, right from the start.



**Privacy.** You trust our products with your most personal information, and we believe very strongly that you should be in complete control of it. We respect your privacy by enacting strict policies that govern how all data is handled. And when you browse the web, Safari helps prevent data companies from tracking the sites you visit.

[Learn more about how privacy is built into our products >](#)

**Security.** macOS is engineered with advanced technologies that are constantly working together to keep your Mac and the information on it safe. Gatekeeper makes it safer to download and install apps from the web. The Apple File System further safeguards your data with built-in support for encryption, crash-safe protections, and simplified data backup on the go.

[Learn more about macOS security features >](#)

## Compatibility

# Need to work with Windows? Mac does that, too.

With macOS, it's easy to transfer your files, photos, and other data from a Windows PC to your Mac. Work with popular file types such as JPEG, MP3, and PDF, as well as Microsoft Word, Excel, and PowerPoint documents. And, of course, you can run Microsoft Office natively on a Mac. If you want, you can even run Windows on your Mac.<sup>4</sup>

[Learn more about macOS compatibility >](#)



## Built-in Apps

# Apps as powerful and elegant as your Mac. Because they're designed for it.

With every Mac, you get a collection of powerful apps. They're the same apps you use on your iPhone or iPad, so they'll feel instantly familiar. They all work with iCloud, so your schedule, contacts, and notes are always up to date everywhere. And because they're native apps — not web apps in a browser — they take full advantage of the power of your Mac to deliver the fastest possible performance and more robust features.

**New to Mac.** macOS Mojave brings four new apps to your desktop. Get all the news that matters from sources you trust, all in one place.<sup>5</sup> Track the market with Stocks. Instantly capture personal reminders, class lectures, even interviews or song ideas with Voice Memos. And control all your HomeKit-enabled accessories from the comfort of your desktop with the Home app.



News  
[Learn more >](#)



Stocks



Voice Memos



Home  
[Learn more >](#)

**Creativity.** Organize, edit, and share a lifetime's worth of photos and videos, and rediscover your favorite memories. Transform home videos into unforgettable movies or quickly share clips with your favorite people. Create music like the pros with a huge collection of sounds, instruments, amps, and a lineup of virtual session drummers and percussionists perfectly suited to play along with your song.



Photos  
[Learn more >](#)



iMovie  
[Learn more >](#)



GarageBand  
[Learn more >](#)

**Productivity.** Create beautiful documents with stunning simplicity. Visualize your data precisely and persuasively in spreadsheets with Images, text, and shapes. Make stage-worthy presentations using powerful graphics tools and dazzling cinematic effects to bring your ideas to life. And collaborate with friends and coworkers in real time — whether they're across town or across the globe.



Pages  
[Learn more >](#)



Numbers  
[Learn more >](#)



Keynote  
[Learn more >](#)

**Communication.** Easily manage all of your email accounts in one simple, powerful app that works with email services like iCloud, Gmail, Yahoo, AOL, and Microsoft Exchange. Send unlimited messages to anyone on any Apple device, using the same Messages app on your Mac as you do on your iPhone. And make unlimited high-quality video and audio calls right from your Mac with FaceTime.



Mail



Messages



FaceTime

**Organization.** Keep your iCloud, Google, and Exchange calendars in one place, create separate calendars for home, work, and school, and view them all or just the ones you want. Keep all your contact info up to date on all your devices, and easily import numbers, addresses, and photos from Google and Microsoft Exchange. And keep track of little and big things with notes that can include links, photos, map locations, tables, and more.



Calendar



Contacts



Notes

**Internet.** Surf the web on the fastest, most energy-efficient browser,<sup>6</sup> with built-in privacy features that keep you in control of your information. Map out new destinations from your desktop, with gorgeous 3D city views like Flyover, point-to-point directions, and comprehensive transit directions. Use Apple Pay to make purchases on the web in Safari with Touch ID on MacBook Pro and MacBook Air. Paying takes just a touch and is quick, easy, and secure. And with Spotlight, instantly search your entire Mac or get results from the internet in just a few keystrokes.



Safari  
[Learn more >](#)



Apple Pay  
[Learn more >](#)



Spotlight

**Media.** Find the latest apps and extensions for your Mac, right on your Mac. Enjoy the music, movies, and TV shows you already have on your beautiful Retina display, or discover soon-to-be favorites. And take advantage of the world-class bookstore built into your Mac, where you can peruse the latest titles from your desktop.



iTunes  
[Learn more >](#)



App Store



Books

iCloud

## All your stuff. On your Mac, and everywhere else you want it. Automatically.

Every Apple app uses iCloud — it's the magic behind the seamless experience you have with all your Apple devices. So you always have your photos, videos, documents, email, notes, contacts, calendars, and more on whatever device you're using. And any file you store in iCloud Drive can be shared with friends, family, and colleagues just by sending them a link. iCloud Drive also lets you access files from your Mac desktop and Documents folder on any iOS device. It's all done automatically. Just like that.<sup>7</sup>

[Learn more about iCloud >](#)



Technology

## Advanced to the core.

macOS features powerful core technologies engineered for the most important functions of your Mac. High Efficiency Video Coding (HEVC) introduces a modern standard for video compression, making movie files up to 40 percent smaller and 4K streaming video faster.<sup>8</sup> Metal 2 powers the graphics behind every pixel, making your gaming experience more visually breathtaking and fun. Create ML gives developers a faster and easier way to build machine learning into apps. And support for virtual reality lets developers create immersive worlds for you to step into.



## Accessibility

# We make sure that everyone is able to use a Mac.

macOS comes standard with a wide range of assistive technologies that help people with disabilities experience what the Mac has to offer, providing many features you won't find in other operating systems. These include Accessibility Keyboard, VoiceOver, FaceTime,<sup>2</sup> Switch Control, and text to speech, all designed to help anyone get more out of Mac.

[Explore all accessibility features on Mac >](#)



Vision



Hearing



Physical & Motor Skills



Literacy & Learning

<sup>1</sup> Spotlight suggestions are not available in all countries or regions.

<sup>2</sup> Siri may not be available in all languages or in all areas, and features may vary by area.

<sup>3</sup> Requires Apple Music subscription.

<sup>4</sup> Microsoft Windows is sold separately. [Click here for system requirements.](#)

<sup>5</sup> Apple News is available in the U.S., UK, and Australia.

<sup>6</sup> Testing conducted by Apple in August 2018 on production 3.1GHz dual-core Intel Core i5-based 13-inch MacBook Pro systems with 8GB RAM, 256GB SSD, and premixed macOS Mojave running Safari 12. Systems tested with WPA2 Wi-Fi network connection while running on battery power, with display brightness set to 12 clicks from bottom, or 75%. Not all features are available on all devices. Performance will vary based on system configuration, application workload, and other factors.

<sup>7</sup> iCloud requires an iCloud-enabled device. Some features require iOS 12 and macOS Mojave. Some features require a Wi-Fi connection. Some features are not available in all countries or regions. Access to some services is limited to 10 devices.

<sup>8</sup> A more powerful Mac will deliver better HEVC performance. The playback of 4K HEVC content requires a Mac with a sixth-generation Intel Core processor or newer. Amount of disk space saved depends on specific video file and hardware used; actual results may vary.

<sup>9</sup> FaceTime calling requires a FaceTime-enabled device for the caller and recipient and a Wi-Fi or internet connection.

Some features, applications, and services may not be available in all regions or all languages.

Some features require an Apple ID, compatible hardware, and compatible internet access or cellular network; additional fees and terms may apply.

Some features require specific hardware and software. For more information, see "Feature Requirements" at [www.apple.com/macos/how-to-upgrade](http://www.apple.com/macos/how-to-upgrade).

Software and content may be sold separately. Title availability is subject to change.

<div>  Mac macOS </div>				
<b>Shop and Learn</b> Mac iPad iPhone Watch TV Music AirPods HomePod iPod touch Accessories Gift Cards	<b>Services</b> Apple Music Apple News+ Apple TV+ Apple Arcade Apple Card iCloud  <b>Account</b> Manage Your Apple ID Apple Store Account iCloud.com	<b>Apple Store</b> Find a Store Genius Bar Today at Apple Apple Camp Field Trip Apple Store App Refurbished and Clearance Financing Apple Trade In Order Status Shopping Help	<b>For Business</b> Apple and Business Shop for Business  <b>For Education</b> Apple and Education Shop for College  <b>For Healthcare</b> Apple in Healthcare Health on Apple Watch Health Records on iPhone  <b>For Government</b>	<b>Apple Values</b> Accessibility Education Environment Inclusion and Diversity Privacy Supplier Responsibility  <b>About Apple</b> Newsroom Apple Leadership Job Opportunities Investors Contact Us

Shop for government  
Shop for Veterans and Military

Learn more  
Contact Apple

More ways to shop: Find an [Apple Store](#) or other [retailer](#) near you. Or call 1-800-MY-APPLE.

Copyright © 2019 Apple Inc. All rights reserved. [Privacy Policy](#) [Terms of Use](#) [Sales and Refunds](#) [Legal](#) [Site Map](#)

 United States